

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.:	SPCI103D
REVISIONS	ECNT12150	For CI19 Series Connector System	PAGE:	1/6

1. SCOPE:

This specification contains the test requirement of subject connectors when tested under the condition and procedure with terminals crimped on the specified maximum size wire

2. APPLICABLE STANDARDS:

MIL - STD - 202 Methods for test of connectors for electronic equipment
EIA-364 Test methods for electrical connectors

3. APPLICABLE SERIES NO: CI19 SERIES

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings

6. ACCOMMODATED P.C.BOARD

6.1 Thickness: 1.6mm(.063")
6.2 P.C. Board Layout: See attached drawings



REVIEWED : Eisley APPROVED : Sun VERIFIED : Jessie .

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7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		3A 50V AC (r.m.s.) (AWG#24) 2.0A 50V AC (r.m.s.) (AWG#26) 1.5A 50V AC (r.m.s.) (AWG#28~ AWG#30)
7.2	Contact resistance	Dry circuit of DC 20 mV max. , 10 mA max.(EIA-364-23)	Less than 20 mΩ
7.3	Dielectric strength	When applied AC 500 V 1 minute between adjacent terminal(EIA-364-20)	No discharge, flashover or breakdown Current leakage: 1mA Max.
7.4	Insulation resistance	When applied DC 500 V between adjacent terminal or ground (EIA-364-21)	More than 500 MΩ

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Wire size	Specified wire size	Accepts AWG#24~#30
8.2	Terminal crimp Tensile strength	When crimped AWG#24 size wire When crimped AWG#26 size wire When crimped AWG#28 size wire When crimped AWG#30 size wire	More than 3.0 Kgf More than 2.0 Kgf More than 1.0 Kgf More than 0.8 Kgf
8.3	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 1.0 Kgf
8.4	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 0.7 Kgf
8.5	Single contact insertion force	Measure force to insertion using male pin at speed 25± 3 mm per minute	0.7 Kgf max.
8.6	Single contact withdrawal force	Measure force to withdrawal using male pin at speed 25± 3 mm per minute	0.06 Kgf min.
8.7	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 0.3 Kgf
8.8	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Appearance: No damage Contact resistance: Less than 40 mΩ

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9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Temperature rise	Mate connector: measure the temperature rise at rated current. The ambient condition is still air at 25°C (UL 498)	The temperature rise above ambient shall not exceed 30°C
9.2	Vibration	The electrical load condition shall be 100mA max. for all contacts. 1.5 mm 10-55-10 HZ / minute each 2 hours for X , Y and Z directions (EIA-364-28)	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Solder ability	Subject the test area of contacts into the flux for 5~10Sec. And then into solder bath. Soldering time: 3 ± 0.5 second Soldering temperature: 245 ± 5°C (EIA-364-52)	Minimum: 90% of immersed area
9.4	Resistance to soldering heat	Refer Reflow temperature profile(12.1)	No damage
9.5	Hand Soldering Method	Use a soldering iron that has a sufficient head capacity and high stability of temperature. The tip of the iron should be shaped so as not to touch the part body directly. Temperature : 380±10°C 3s	No damage
9.6	Heat aging	85± 2°C , 96 hours(EIA-364-17)	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4
9.7	Humidity	40°C , 90-95% RH , 96 hours measurement must be taken within 30 min. after tested (EIA-364-31)	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4

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	ITEM	TEST CONDITION	REQUIREMENT
9.8	Temperature cycling	Five cycle consists of :(EIA-364-32) (1)-25 ⁺⁰ °C , 30 min. -3 (2)Room temp. 10-15 min. (3)85 ⁺³ °C , 30 min. -0 (4)Room temp. 10-15 min.	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4
9.9	Salt spray	Temperature: 35 ± 3°C Solution: 5 ± 1% Spray time: 48 ± 4 hours (Stamping before plated) Spray time: 24 ± 4 hours (Stamping after plated) Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water and dried naturally, after which the specified measurements shall be performed. The specimens shall be suspended from the top using waxed twine, string or nylon thread. The test only define the plating area, without plating area (as copper cross section) will not be defined. (EIA 364-26B)	Appearance: No damage Contact resistance: To pass Para 7.2

10. AMBIENT TEMPERATURE RANGE: -25 to + 85°C

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11.Mating and Un-mating Force:

PIN No.	Mating((kgf) max.)	Un-mating((kgf)min.)	30th Un-mating((kgf)min.)
2	2.0	0.20	0.20
3			
4			
5	3.0	0.30	0.30
6			
7			
8	4.0	0.40	0.40
9			
10			
11	5.1	0.51	0.51
12			
13			
14	6.1	0.61	0.61
15			
16			
17	7.1	0.71	0.71
18			
19			
20	8.1	0.81	0.81

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12. Recommended IR Reflow Temperature Profile:

12.1 Using Lead-Free Solder Paste

